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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/518,071 | 12/16/2004 | Junko Morioka | 25613-000007/US | 3034 |

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| EXAMINER | |
|---|---|
| SHAH, MANISH S | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2853 | |

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/518,071 | MORIOKA ET AL. | |
| | Examiner | Art Unit | |
| | Manish S. Shah | 2853 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) 1-7 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 12/16;8/4;5/8.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al. (# US 5990227) in view of Taguchi et al. (# US 7022170).

Takizawa et al. discloses an inkjet recording process using a water based inkjet printer ink including at least a colorant (column: 10, line: 60-66) and a resin (alkali-soluble resin), wherein in said resin is a block copolymer including at least one hydrophilic block and at least one hydrophobic block, each of said block is a vinyl ether polymer (column: 10, line: 10-20), and has a number average molecular weight of from 1000 to 100,000 (column: 10, line: 30-40). They also discloses that the amount of the alkali-soluble resin added in the ink within the range of from 0.05 to 30% by weight (column: 10, line: 40-45).

Takizawa et al. differs from the claim of the present invention is that (1) the ink further includes aluminum or an aluminum compound, wherein aluminum compound selected from alumina, aluminum hydroxide, and mole ratio of said resin to said aluminum compound is from 1:5 to 10,000:3. (2) The colorant is an oil-soluble dye.

Taguchi et al. teaches that to improve the water solubility of the dye, ink includes aluminum ion in an amount of less than 0.5% by weight (column: 4, line: 30-50). They also disclose that colorant is an oil-soluble dye (column: 27, line: 30-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Takizawa et al. by the aforementioned teaching of Taguchi et al. in order to improve the water solubility of the dye in the ink composition, which gives high quality printed image.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al. (# US 5990227) in view of Kashiwazaki et al. (# US 5439514).

Takizawa et al. discloses an inkjet recording process using a water based inkjet printer ink including at least a colorant (column: 10, line: 60-66) and a resin (alkali-soluble resin), wherein in said resin is a block copolymer including at least one hydrophilic block and at least one hydrophobic block, each of said block is a vinyl ether polymer (column: 10, line: 10-20), and has a number average molecular weight of from 1000 to 100,000 (column: 10, line: 30-40). They also discloses that the amount of the alkali-soluble resin added in the ink within the range of from 0.05 to 30% by weight (column: 10, line: 40-45).

Takizawa et al. differs from the claim of the present invention is that (1) the ink further includes aluminum or an aluminum compound, wherein aluminum compound selected from alumina, aluminum hydroxide, and mole ratio of said

resin to said aluminum compound is from 1:5 to 10,000:3. (2) The colorant is an oil-soluble dye.

Kashiwazaki et al. teaches that to improve the water solubility of the dye, ink includes fine particle of alumina (see Abstract), and the mole ratio of said resin to said aluminum compound is from 1:5 to 10,000:3 (column: 4, line: 15-40). They also disclose that colorant is an oil-soluble dye (pigment) (column: 4, line: 30-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Takizawa et al. by the aforementioned teaching of Kashiwazaki et al. in order to improve the storage stability and ejection stability of the ink.

3. Claims 1-3 & 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soga et al. (# US 2002/0049261) in view of Taguchi et al. (# US 7022170).

Soga et al. discloses an inkjet recording process using a water based inkjet printer ink including at least a colorant (see Abstract) and a resin (star block polymer), wherein in said resin is a block copolymer including at least one hydrophilic block and at least one hydrophobic block ([0018], [0023], [0037]), each of said block is a vinyl ether polymer ([0045]). They also discloses that the amount of the alkali-soluble resin added in the ink about 2% by wt. (see Examples). They also disclose that the colorant is an oil soluble dye (see Abstract).

Soga et al. differs from the claim of the present invention is that the ink further includes aluminum or an aluminum compound, wherein aluminum compound selected from alumina, aluminum hydroxide, and mole ratio of said resin to said aluminum compound is from 1:5 to 10,000:3.

Taguchi et al. teaches that to improve the water solubility of the dye, ink includes aluminum ion in an amount of less than 0.5% by weight (column: 4, line: 30-50). They also disclose that colorant is an oil-soluble dye (column: 27, line: 30-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Soga et al. by the aforementioned teaching of Taguchi et al. in order to improve the water solubility of the dye in the ink composition, which gives high quality printed image.

## ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Manish S. Shah
Primary Examiner
Art Unit 2853

MSS
9/25/06